

WHAT IS CLAIMED IS:

1. A rotation angle detecting device comprising:

a target having a spur gear shape rotatable together with a rotary member, the target including,

5 a plurality of magnetic teeth protruding at a substantially equal pitch in a circumferential direction of an axis of the rotary member, wherein each of the magnetic teeth are defined by a pair of side faces, and a crest surface between the side faces in the circumferential direction, and

10 angular portions formed at boundaries between the side faces and the crest surfaces of all of the teeth; and

magnetic sensors arranged so as to confront the plurality of teeth for outputting output signals according to a rotation of the rotary member, thereby to detect a rotation angle of
15 the rotary member based on the output signals.

2. The rotation angle detecting device according to claim 1, wherein the side faces are flat.

20 3. The rotation angle detecting device according to claim 1, wherein a bottom land and the corresponding side faces which are disposed between the adjacent two teeth constitute an arcuate face recessed radially.

25 4. A torque detecting device comprising:

a rotation member including a first rotary shaft and a second rotary shaft connected coaxially to the first rotary shaft;

rotation angle detecting devices provided to the first
5 and second rotary shafts, respectively, each of the rotation angle detecting devices including,

a target having a spur gear shape rotatable together with a rotary member, the target including,

a plurality of magnetic teeth protruding at
10 a substantially equal pitch in a circumferential direction of an axis of the rotary member, wherein each of the magnetic teeth are defined by a pair of side faces, and a crest surface between the side faces in the circumferential direction, and

angular portions formed at boundaries
15 between the side faces and the crest surfaces of all of the teeth;

magnetic sensors arranged so as to confront the plurality of teeth for outputting output signals according to a rotation of the rotary member, thereby to detect a rotation angle of
20 the rotary member based on the output signals; and

a torque detecting unit for detecting a torque to be applied to the rotary member based on signals outputted from the corresponding rotation angle detecting devices.